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IS 13450-2-32 (2006): Medical Electrical Equipment, Part 2: Particular requirements for safety , Section 32 Associated equipment of X-Ray equipment [MHD 14: Hospital Planning]

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भारतीय मानक

चिकित्सीय विद्युत उपस्कर

भाग 2 सुरक्षा के लिए विशिष्ट अपेक्षाएँ

अनुभाग 32 क्ष-किरण उपस्कर के साथ लगने वाले सहचारी उपस्कर

Indian Standard

MEDICAL ELECTRICAL EQUIPMENT

PART 2 PARTICULAR REQUIREMENTS FOR THE SAFETY

Section 32 Associated Equipment of X-Ray Equipment

ICS 11.040.50

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

November 2006 **Price Group 7**

Electromedical Equipment Sectional Committee, MHR 15

NATIONAL FOREWORD

This Indian Standard (Part 2/Sec 32) which is identical with IEC 60601-2-32 (1994) 'Medical electrical equipment — Part 2-32 : Particular requirements for the safety of associated equipment of X-ray equipment' issued by the International Electrotechnical Commission (IEC) was adopted by the Bureau of Indian Standards on the recommendation of the Electromedical Equipment Sectional Committee and approval of the Medical Equipment and Hospital Planning Division Council.

The text of the IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

c) Only the English language text in the International Standard has been retained while adopting it in this Indian Standard and as such the page numbers given here are not the same as in the IEC Publication.

In this adopted standard, reference appears to the following International Standard for which Indian Standard also exists. The corresponding Indian Standard which is to be substituted in its place is listed below along with its degree of equivalence for the edition indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
IEC 60601-2-7 (1998) Medical electrical equipment — Part 2-7 : Particular requirements for the safety of high-voltage generators of diagnostic X-ray generators	IS 13450 (Part 2/Sec 7) : 2006 Medical electrical equipment: Part 2 Particular requirements for the safety, Section 7 High-voltage generators of diagnostic X-ray generators	Identical

The technical committee responsible for the preparation of this standard has reviewed the provisions of the following International Standards and has decided that they are acceptable for use in conjunction with this standard:

International Standard	*Title*
ISO 6892 : 1984	Metallic materials — Tensile testing
IEC 60601-1 (1988)[1]	Medical electrical equipment — Part 1 : General requirements for safety
IEC 60601-1-3 (1994)	Medical electrical equipment — Part 1-3 : General requirements for safety — Collateral standard : General requirements for radiation protection in diagnostic X-ray equipment
IEC 60601-2-8 (1999)	Medical electrical equipment — Part 2-8 : Particular requirements for the safety of therapeutic X-ray equipment operating in the range 10 kV to 1 MV
IEC/TR 60788 (2004)	Medical electrical equipment — Glossary

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[1] Since revised in 2005.

AMENDMENT NO. 1 NOVEMBER 2008
TO
IS 13450 (PART 2/Sec 32) : 2006/IEC 60601-2-32 (1994) MEDICAL ELECTRICAL EQUIPMENT

PART 2 PARTICULAR REQUIREMENTS FOR THE SAFETY

Section 32 Associated Equipment of X-Ray Equipment

(*National Foreword, last paragraph*) — Insert the following new paragraphs at the end:

'The standard also makes a reference to the BIS Certification Marking of the product, details of which is given in National Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.'

(*Page* 16) — Insert the following National Annex A at the end of the standard:

'NATIONAL ANNEX A
(National Foreword)

A-1 BIS CERTIFICATION MARKING

The product may also be marked with the Standard Mark.

A-1.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the rules and regulations made thereunder. The details of the condition under which the license for the use of Standard Mark may be granted to manufacturers or producers may be obtained from Bureau of Indian Standards.'

(MHR 18)

Reprography Unit, BIS, New Delhi, India

Indian Standard

MEDICAL ELECTRICAL EQUIPMENT

PART 2 PARTICULAR REQUIREMENTS FOR THE SAFETY

Section 32 Associated Equipment of X-Ray Equipment

SECTION ONE – GENERAL

The clauses and subclauses of this section of the General Standard apply, except as follows:

1 Scope and object

This clause of the General Standard applies except as follows:

1.1 *Scope*

Addition:

This Particular Standard applies to equipment and devices associated with X-RAY EQUIPMENT as used for supporting and relatively positioning the functional components including the PATIENT SUPPORT used for the application of the X-RADIATION.

This Particular Standard applies to all ASSOCIATED EQUIPMENT not covered by other Particular Standards.

1.2 *Object*

Replacement:

The object of this Particular Standard is to establish particular requirements for the design and manufacture to ensure safety and to specify methods for demonstrating compliance with these requirements.

1.3 *Particular Standards*

Addition:

This Particular Standard refers to IEC 601-1: 1988, *Medical electrical equipment – Part 1: General requirements for safety* with its amendments 1 and 2*, and to IEC 601-1-3: *Medical electrical equipment – Part 1: General requirements for safety – 3. Collateral Standard: General requirements for radiation protection in diagnostic X-ray equipment.*

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* Amendment 2 of IEC 601-1 is under consideration by SC 62A at the time of publication of this Particular Standard. Nevertheless SC 62B has checked this Particular Standard with the draft 62A(Secretariat)131 of that amendment 2. Reference to it has been considered as satisfactory. Any alignment, if necessary, will be initiated after final publication of amendment 2.

For brevity, IEC 601-1 is referred to in this Particular Standard either as the General Standard or as the General Requirement(s), and IEC 601-1-3 as the Collateral Standard.

The term "this Standard" is used to make reference to the General Standard, the Collateral Standard and this Particular Standard taken together.

The numbering of sections, clauses and subclauses of this Particular Standard corresponds with that of the General Standard. The changes to the text of the General Standard are specified by the use of the following words:

"Replacement" means that the clause or subclause of the General Standard is replaced completely by the text of this Particular Standard.

"Addition" means that the text of this Particular Standard is additional to the requirements of the General Standard.

"Amendment" means that the clause or subclause of the General Standard is amended as indicated by the text of this Particular Standard.

Subclauses or figures which are additional to those of the General Standard are numbered starting from 101, additional annexes are lettered AA, etc., and additional items aa), bb), etc.

Where there is no corresponding section, clause or subclause in this Particular Standard, the section, clause or subclause of the General Standard or the Collateral Standard applies without modification.

Where it is intended that any part of the General Standard or the Collateral Standard, although possibly relevant, is not to be applied to ASSOCIATED EQUIPMENT, a statement to that effect is given in this Particular Standard.

A requirement of this Particular Standard replacing or modifying requirements of the General Standard or the Collateral Standard takes precedence over the corresponding General Requirement(s).

2 Terminology and definitions

This clause of the General Standard applies except as follows:

2.11 *Mechanical safety*

2.11.8 *SAFETY FACTOR*

This subclause of the General Standard does not apply (see 21.101).

4 General requirements for tests

This clause of the General Standard applies except as follows:

4.10 *Humidity preconditioning treatment*

Addition:

This test shall be applied only to those parts of ASSOCIATED EQUIPMENT likely to be influenced by the climatic conditions that are simulated by the test.

If it is not practicable to treat ASSOCIATED EQUIPMENT as a whole, the treatment may be given sequentially to separate parts.

Also, if testing cannot be carried out without dismantling or reassembling, a period longer than that required in the General Standard may elapse between treatment and testing.

6 Identification, marking and documents

This clause of the General Standard applies except as follows:

6.1 *Marking on the outside of EQUIPMENT or EQUIPMENT parts*

Addition at the beginning of the subclause:

ASSOCIATED EQUIPMENT and their constituent sub-assemblies and components shall be appropriately marked if their correlation to one another influences safety (see also 6.8.1).

Additional item:

aa) *Marking of compliance*

If, for ASSOCIATED EQUIPMENT, compliance with this standard is to be marked on the outside of the EQUIPMENT, such marking shall be made in combination with the MODEL OR TYPE REFERENCE as follows:

Associated equipment .... *) IEC 601-2-32:1994

* MODEL OR TYPE REFERENCE.

6.3 *Marking of controls and instruments*

aa) *Additional paragraph:*

Where the units are indicated, linear scales shall be graduated in SI (e.g. centimetres) and the graduations of angular scales shall be based on the angular degree.

6.7 *Indicator lights and push buttons*

a) *Colours of indicator lights*

Addition before the last paragraph:

An indicator light does not need to be red when its purpose is to indicate a state that is prevented from becoming hazardous by an interlock.

Light emitting diodes (LEDs) in the red spectrum are not considered to be red indicator lights provided that:

- all indications for which no particular colour is required are given by light emitting diodes of the same colour, and
- the indications for which particular colours are required are given in a clearly distinguishable way.

6.8 ACCOMPANYING DOCUMENTS

6.8.1 *General*

Addition:

The ACCOMPANYING DOCUMENTS shall clearly state the identity of the ASSOCIATED EQUIPMENT or sub-assembly thereof, to which they refer.

All particulars required to be marked under 6.1 shall also be stated in the ACCOMPANYING DOCUMENTS.

This Particular Standard contains no requirements concerning the language(s) in which ACCOMPANYING DOCUMENTS are to be provided.

NOTE – Attention is drawn to the fact that ACCOMPANYING DOCUMENTS in a language other than that in which they are supplied and approved by the manufacturer of the EQUIPMENT or sub-assembly need a careful check by an expert who, wherever possible, should be authorized by the manufacturer to act in that capacity.

The ACCOMPANYING DOCUMENTS shall state the language(s) in which they were originally drafted, approved or supplied by the manufacturer and shall give a reference identifying at least one original version.

6.8.2 *INSTRUCTIONS FOR USE*

Additional item:

aa) The INSTRUCTIONS FOR USE shall include all data, of which knowledge is essential for safe operation.

Additional subclause:

6.8.101 *Statement of compliance*

If for ASSOCIATED EQUIPMENT compliance with this standard is to be stated, the statement shall be made in the following form:

Associated equipment .... *) IEC 601-2-32:1994
* MODEL OR TYPE REFERENCE.

If means other than those described in this Standard have been used to achieve equivalent safety the alternatives or exceptions shall be mentioned in the ACCOMPANYING DOCUMENTS when stating compliance with this standard.

SECTION TWO – ENVIRONMENTAL REQUIREMENTS

The clauses and subclauses of this section of the General Standard apply.

SECTION THREE – PROTECTION AGAINST ELECTRIC SHOCK HAZARDS

The clauses and subclauses of the General Standard apply.

SECTION FOUR – PROTECTION AGAINST MECHANICAL HAZARDS

The clauses and subclauses of the General Standard apply except as follows:

21 Mechanical strength

This clause of the General Standard applies except as follows:

21.3 *Amendment:*

Replace the third paragraph by the following:

If the manufacturer specifies a particular application, such as paediatric use, the normal load may be reduced. In this case the reduced value of the normal load shall be marked on the ASSOCIATED EQUIPMENT.

Addition:

Adjustable foot rests shall be self-locking for all tilting angles of the PATIENT SUPPORT in NORMAL USE.

The border of an adjustable foot rest shall fit closely against the PATIENT SUPPORT and shall not have ledges which could cause the PATIENT to stumble.

Compliance is checked by inspection.

21.6 *Replacement:*

PORTABLE and MOBILE EQUIPMENT shall withstand the stresses caused by rough handling.

Compliance is checked by the following test:

aa) PORTABLE EQUIPMENT is lifted to a height as indicated in table 101 above a 50 mm thick hardwood board (see 21.6 of the General Standard).

The dimensions of the board shall be at least 1,5 times that of PORTABLE EQUIPMENT and it shall lie flat on a rigid (concrete) base. The PORTABLE EQUIPMENT is dropped three times from each position in which it may be placed in NORMAL USE.

Table 101 – Drop height

Mass of PORTABLE EQUIPMENT kg	Drop height cm
Up to and including 10	5
More than 10 up to and including 50	3
More than 50	2

After the test PORTABLE EQUIPMENT shall comply with the requirements of this Standard.

bb) MOBILE EQUIPMENT is to be moved according to NORMAL USE as described in the INSTRUCTIONS FOR USE, with a speed of 1,5 m/s for manually moved equipment and maximum speed for power-driven equipment over a floor obstruction, 20 mm high by 80 mm wide in cross-section, which is fastened on a flat plane.

This test shall be performed 10 times, after which the EQUIPMENT shall still be in full compliance with this Standard.

Additional subclauses:

21.101 *SAFETY FACTORS*

See also clause 28 "Suspended masses".

SAFETY FACTORS are the ratios of the stress limit to the maximum stress during NORMAL USE. The SAFETY FACTOR shall always be equal to or larger than the values given in table 102.

21.101.1 *Determination of the SAFETY FACTOR*

The SAFETY FACTOR for metallic material shall be determined under the following aspects:

- if the breakdown of a part can result directly or indirectly in a hazard, then the SAFETY FACTOR shall have at least the appropriate value given in table 102 for static load;
- if the material properties and all external forces to be expected are known, the values in column (a) apply, otherwise the values in column (b) apply.

Table 102 – Static load

Safety against	SAFETY FACTORS a	 b
Elastic limit[1]	1,7	2,2
Forced rupture[1]	2,5	4,0

[1] For definition of the appropriate load characteristics refer to ISO 6892.

Structural parts shall remain safe throughout their specified lifetime.

Compliance with the requirements of 21.101.1 is checked by inspection of the design and test data and any maintenance instructions.

22 Moving parts

This clause of the General Standard applies except as follows:

22.4 *Replacement:*

Exception: This subclause does not apply to the transport of MOBILE EQUIPMENT.

This subclause applies only to power-driven motions that could result in an injury, in such a way that clinical functionality is not impaired.

The EQUIPMENT should be designed to limit the force and speed, and/or limit the positioning of moving parts so collisions or closing points are not likely to cause an injury. The entire system shall be considered when applying this subclause taking into account:

a) the PATIENT/EQUIPMENT, PATIENT/OPERATOR, OPERATOR/EQUIPMENT, and EQUIPMENT/ environment interfaces;

b) patient conditions such as being unconscious or anaesthetized, or connected to a catheter or other such device;

c) the OPERATOR's ability to see and control the interaction between EQUIPMENT and the PATIENT or other people and EQUIPMENT;

d) the energy which might be applied to the PATIENT from the moving element; and

e) special safety provisions that would prevent injury.

22.4.1 *Controls*

All power-driven motions which could cause physical injury shall be provided with an emergency stop control. This control shall be coloured red, shall be distinctive from other controls, and shall maintain the off condition. A deliberate and different action shall be required to resume motion (example – a red mushroom switch; push to stop, pull to reset). In the event of an emergency stop, means shall be provided for PATIENT access and removal while the EQUIPMENT is disabled.

The movement of EQUIPMENT or EQUIPMENT parts which could cause physical injury to the PATIENT in NORMAL USE shall require the continuous control of the OPERATOR.

If in NORMAL USE a power-driven EQUIPMENT or EQUIPMENT part is intended or likely to contact the PATIENT, and when appropriate for the designed application, means shall be provided to detect PATIENT contact and stop the motion if the contact could cause physical injury to the PATIENT.

Means shall be provided or warnings given in the ACCOMPANYING DOCUMENTS, to prevent injuries that could result from collision of power-driven EQUIPMENT parts with other moving or stationary items likely to be in the environment.

Compliance is checked by functional test and by inspection of the INSTRUCTIONS FOR USE.

22.4.2 *Unintentional motion*

Means shall be provided to minimize the possibility of unintended motion, which could result in physical injury to the PATIENT, in NORMAL USE and SINGLE FAULT CONDITIONS. The following shall apply:

a) OPERATOR controls shall be so positioned, recessed, or protected by other means that they cannot be accidentally actuated resulting in a physical injury to the PATIENT.

b) The motorized movement of EQUIPMENT or EQUIPMENT parts which could crush or otherwise directly cause serious injury to the PATIENT, and for which the response of the OPERATOR to actuate an emergency stop cannot be relied on to prevent an injury, shall be operated only by continuous actuation of two switches by the OPERATOR. Each switch shall be capable of interrupting independently the movement.

The two switches may be designed into a single control, and one switch may be in a circuit which is common to all motions.

These switches shall be in a location such that possible injury to the PATIENT can be observed by the OPERATOR. At least one set of switches shall be so located as to require the presence of the OPERATOR close to the PATIENT, to observe the moving parts of the EQUIPMENT.

The motorized movement of EQUIPMENT parts which could indirectly cause physical injury, such as a table angulation which could cause a PATIENT to fall, is not required to be controlled by two switches.

For EQUIPMENT designed to be set up or pre-positioned automatically, a control requiring continuous actuation which stops the mechanical motions on release shall be located at the position where movements can be visually observed.

c) Where failure, such as welded relay contacts, would result in uncontrolled motion, redundant control or other such protection shall be provided. A failure of one of the redundant controls shall be indicated to the OPERATOR, either directly or by a test according to the INSTRUCTIONS FOR USE.

d) Switching elements shall not be connected on the earthed side of a motion controlling circuit.

Compliance is checked by inspection of the circuit diagram, visual inspection and functional test.

22.4.3 *Pressure and force limitation*

The pressure or force allowed to be applied to the PATIENT for diagnostic purposes shall be analysed with respect to the body part which may come in contact with the EQUIPMENT, to application requirements and the potential for injury. As a general guideline, the pressure on the PATIENT should be limited to 70 kPa maximum and the force to 200 N.

In power-assisted motions the added force shall not exceed by more than 10 N the force required to overcome the resistance to motion.

Compliance is checked by visual inspection, functional test and if necessary inspection of the INSTRUCTIONS FOR USE.

22.4.4 *Speed limitation and braking*

The speed of motions that position the EQUIPMENT or PATIENT in such a way that the EQUIPMENT could contact the PATIENT with a risk of injury, shall be limited so that the OPERATOR will have adequate control of positioning without endangering the PATIENT.

The overtravel of such motion, occurring after actuation of a control to stop the motion, shall not exceed 10 mm.

As a general guideline, except for MOBILE EQUIPMENT, when movement of power-driven EQUIPMENT towards the PATIENT is within 300 mm of the PATIENT table top, or 100 mm of the table side, the speed should be limited to half the maximum speed.

Compliance is checked by functional test and measurement.

22.4.5 *Clearances*

Minimum clearances between moving parts, or between fixed and moving parts, which are accessible to the PATIENT or OPERATOR, shall be as listed below unless special safeguards are provided such as limiting the force, providing barriers, limiting gaps to 9 mm maximum:

– protection from finger entrapment	25 mm;
– protection from toe entrapment	50 mm;
– protection from arm/foot entrapment	120 mm.

Compliance is checked by functional test and measurement.

22.4.6 *Limiting motions, end stops*

End stops or other mechanical means shall be provided and their strength shall be adequate for the intended function.

Compliance is checked by review of the manufacturer's design and test data.

22.4.7 *Removable guards*

Warning labels shall be provided on removable guards or covers used to prevent injuries from power-driven parts. If the hazard is not obvious when the guard is removed, a second warning shall be located on the assembly inside the guard.

Compliance is checked by visual inspection.

22.5 *Addition:*

For motorized compression movements, means shall be provided which limit the force applied to the PATIENT, according to the values given in the INSTRUCTIONS FOR USE.

During compression, other EQUIPMENT movements which could be hazardous to the PATIENT and are not needed for the examination shall be prevented.

Compliance is checked by measurement of the force(s) and the review of the INSTRUCTIONS FOR USE.

Additional subclauses:

22.101 Means shall be provided to permit the release of the PATIENT quickly and safely in the event of breakdown of the EQUIPMENT or failure of the power supply.

22.102 When, after removal of counterbalanced parts, other parts of the EQUIPMENT can move in a hazardous way, measures shall be provided to minimize the risk of injury to persons.

Compliance is checked by inspection.

24 Stability in NORMAL USE

This clause of the General Standard applies except as follows:

Additional subclauses:

24.101 The EQUIPMENT shall not overbalance if subjected to a force of 25 % of the weight of EQUIPMENT or 220 N (whichever is less).

The force is to be applied in the direction and location most likely to overbalance the EQUIPMENT. Legs or wheels shall be blocked in the most unfavourable position. The force shall be applied at the highest point of the EQUIPMENT or at a point 150 cm above floor level whichever is the lower.

24.102 Wheels of MOBILE EQUIPMENT that exceed 45 kg shall have a diameter of at least 70 mm. For EQUIPMENT with an uneven distribution of weight, where two wheels carry at least 70 % of the weight in transport position, only these two need meet this requirement.

24.103 Brakes of power-driven MOBILE EQUIPMENT shall be designed so that the brakes are normally in the applied state and can be released only by continuous actuation of a control.

24.104 MOBILE EQUIPMENT shall be provided with wheel locks or with a braking system appropriate to the intended modes of use and sufficient to ensure that unintended movement is prevented on an incline of 0,09 radian (5°).

Compliance is checked by putting the EQUIPMENT on an incline of 0,09 radian (5°). The EQUIPMENT shall not move by its own weight.

28 Suspended masses

This clause of the General Standard applies except as follows:

Additional subclauses:

28.101 *General*

This subclause is related to suspension means of EQUIPMENT. Suspension means are ropes, chains, bands, and jack screws.

28.102 *Arrangement of suspension means*

Suspension means shall be so located, enclosed, or otherwise guarded so that they cannot injure a person in case of their rupture.

28.103 *Shock absorbing means*

Appropriate damping means shall be provided in cases where in NORMAL USE high dynamic loads occur as a result of rapid acceleration or deceleration, for example.

28.104 *Multiple suspension*

The SAFETY FACTOR of multiple suspensions (consisting of multiple ropes, chains, rods, etc.) shall be equal to the SAFETY FACTOR required for the suspension.

Breakdown of a single component of a multiple suspension system shall be obvious to the OPERATOR.

28.105 *SAFETY DEVICE*

Ropes, chains or bands running parallel to other ropes, chains or bands may be regarded as a SAFETY DEVICE if they are not loaded during NORMAL USE.

Wire ropes may be used as a SAFETY DEVICE only if they are accessible for inspection and the ACCOMPANYING DOCUMENTS give appropriate instructions for inspection.

SECTION FIVE – PROTECTION AGAINST HAZARDS FROM UNWANTED OR EXCESSIVE RADIATION

The clauses and subclauses of this section of the General Standard apply.

SECTION SIX – PROTECTION AGAINST HAZARDS OF IGNITION OF FLAMMABLE ANAESTHETIC MIXTURES

The clauses and subclauses of this section of the General standard apply.

SECTION SEVEN – PROTECTION AGAINST EXCESSIVE TEMPERATURES AND OTHER SAFETY HAZARDS

The clauses and subclauses of this section of the General Standard apply.

SECTION EIGHT – ACCURACY OF OPERATING DATA AND PROTECTION AGAINST HAZARDOUS OUTPUT

The clauses and subclauses of this section of the General Standard apply.

SECTION NINE – ABNORMAL OPERATION AND FAULT CONDITIONS; ENVIRONMENTAL TESTS

The clauses and subclauses of this section of the General Standard apply.

SECTION TEN – CONSTRUCTIONAL REQUIREMENTS

The clauses and subclauses of this section of the General Standard apply.

The appendices of the General Standard apply except as follows:

Appendix L

References – Publications mentioned in this Standard

Appendix L of the General Standard applies except as follows:

Addition:

IEC 601-1: 1988, *Medical electrical equipment – Part 1: General requirements for safety*

Amendment 1: 1991
Amendment 2 (under consideration, see footnote p. 11)

IEC 601-1-3: *Medical electrical equipment – Part 1: General requirements for safety – 3. Collateral Standard: General requirements for radiation protection in diagnostic X-ray equipment* (currently DIS 62B(CO)111)

IEC 601-2-7: 1987, *Medical electrical equipment – Part 2: Particular requirements for the safety of high voltage generators of diagnostic X-ray generators*

IEC 601-2-8: 1987, *Medical electrical equipment – Part 2: Particular requirements for the safety of therapeutic X-ray generators*

IEC 601-2-15: 1988, *Medical electrical equipment – Part 2: Particular requirements for the safety of capacitor discharge X-ray generators*

IEC 788: 1984, *Medical radiology – Terminology*

ISO 6892: 1984, *Metallic materials – Tensile testing*

Annex AA
(informative)

Index of defined terms

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Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards: Monthly Additions'.

This Indian Standard has been developed from Doc: No. MHR 15 (016).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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